

Patent Claims

1. Method of working up liquid substances, characterized in that the liquid substance to be worked-up is mixed continuously with a washing liquid in one or more microreactors and/or micromixers.
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2. Method according to Claim 1, characterized in that the internal channel diameter of the microreactor and/or micromixer is at least 50 μm .
3. Method according to Claim 1 or 2, characterized in that the internal channel diameter of the microreactor and/or micromixer is at least 100 μm .
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4. Method according to one or more of Claims 1 to 3, characterized in that the internal channel diameter of the microreactor and/or micromixer is not more than 3000 μm .
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5. Method according to one or more of Claims 1 to 4, characterized in that the internal channel diameter of the microreactor and/or micromixer is not more than 1000 μm .
- 20 6. Method according to one or more of Claims 1 to 5, characterized in that the flow of the liquids in the microreactor and/or micromixer is laminar.
7. Method according to one or more of Claims 1 to 6, characterized in that the flow of the liquids in the microreactor and/or micromixer has a Reynolds number of < 1000 .
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8. Method according to one or more of Claims 1 to 7, characterized in that the microreactor and/or micromixer contains microstructured passive mixing structures.
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9. Method according to one or more of Claims 1 to 8, characterized in that the microreactor and/or micromixer contains glass or silicon as material.
- 5 10. Method according to one or more of Claims 1 to 9, characterized in that the microreactor and/or micromixer contains metal, ceramic or enamel as material.
- 10 11. Method according to one or more of Claims 1 to 10, characterized in that the mixture that leaves the microreactor and/or micromixer and that is composed of liquid (valuable) substance and washing liquid flows into a vessel having an upper and a lower drain so that the already separated liquid phases can be drawn off.
- 15 12. Method according to one or more of Claims 1 to 10, characterized in that, in addition to an upper and a lower drain, the vessel also has one or more additional drains via which further liquid phases can be drawn off.
- 20 13. Method according to one or more of Claims 1 to 12, characterized in that the washing and separating operation is repeated by connecting a plurality of microreactors and/or micromixers downstream of one another in series and/or is varied by adding other washing liquids in each one.
- 25 14. Method according to one or more of Claims 1 to 13 for working up liquid nitrate esters.
15. Method according to one or more of Claims 1 to 13 for working up nitroglycerol.